

AMATEUR RADIO



Published in the interests of Amateur Radio
by the W.I.A. (Vic. Div.). Official Organ
of all divisions of the W.I.A.,
and the R.A.A.F. Wireless Reserve



PRICE

6^d

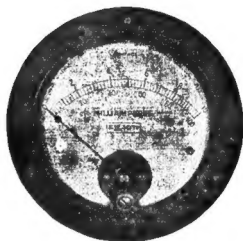
JANUARY, 1937

Amateur Radio

For accuracy, reliability and service rely on

SIEMENS ELLIOTT

**BRITISH
RADIO
INSTRUMENTS**



Stocks of miniature instruments available for
D.C., A.C. and R.F. measurements in moving
coil, moving iron, thermo couple, rectifier pattern



Submit your instrument problems to us

SIEMENS (AUST.) PTY. LIMITED

SYDNEY, MELBOURNE, BRISBANE, ADELAIDE
NEWCASTLE

H. C. Little & Co. Perth;
W. & G. Genders Pty. Ltd. Tasmania

Sole Agents in Australia for the English Electric Co. Ltd. London

AMATEUR RADIO

Published by the Wireless Institute of Aust.. Victorian Division.

Vol. 5 No. 1

1st January, 1937

INDEX

| | | | |
|---|----|---|----|
| Editorial | 3 | Federal Headquarters Notes | 14 |
| A Four Band Exciter and Buffer- Amplifier Unit | 4 | Federal and Victorian QSL Bureau | 14 |
| 28 and 56 Megacycle Activity | 8 | R.A.A.F. Wireless Reserve Notes | 16 |
| S.A.R.R.L's "Johannesburg" | | A Simple Keying Monitor | 18 |
| Jubilee" | 12 | Divisional Notes | 19 |

Divisional Addresses:-

FEDERAL HEADQUARTERS .. . BOX 2127L, G.P.O., SYDNEY
NEW SOUTH WALES .. . BOX 1734JJ, G.P.O., SYDNEY
VICTORIA .. . BOX 2611W, G.P.O., MELBOURNE
QUEENSLAND .. . BOX 1524V, G.P.O., BRISBANE
SOUTH AUSTRALIA .. . BOX 284D, G.P.O., ADELAIDE
WEST AUSTRALIA .. . 62 SUBIACO ROAD, SUBIACO
TASMANIA .. . BOX 547E, G.P.O., HOBART

Magazine Committee:-

Editor—W. R. GRONOW (VK3WG).
Technical Editor—R. H. CUNNINGHAM (VK3ML); Notes—C. SERLE (VK3RX);
Compilation—V. E. MARSHALL (VK3UK); Distribution—E. KILBORN
(VK3KE). Secretary—J. G. MARSLAND (VK3NY).

All Communications and MSS. should be forwarded to the Editor, "Amateur Radio," BOX 2611W, G.P.O., MELBOURNE.

Subscription to "Amateur Radio" is 6/- per Annum (Post Free), paid in advance.

Should you not receive your copy of "Amateur Radio," notify your Divisional Secretary at once.

Advertising and Publishing Office: Address Publicity Manager, "Amateur Radio," Whitehorse Road, Box Hill, E.11. 'Phone: WX 2429.

NOTE.—ADVERTISERS' CHANGE OF COPY MUST BE IN HAND NOT LATER THAN THE 20th OF THE MONTH PRECEDING PUBLICATION.

Homecrafts Pty. Ltd.

*. . . Australia's First Radio Dealers
& still FIRST IN RADIO SERVICE*



Back in the earliest years of the 20th century, when wireless telegraphy was in its infancy, Mr. P. H. McElroy, of Homecrafts, realizing the wonderful possibilities of this new science, opened Australia's first radio department in his Homecrafts Store.

Vast changes have been worked in the world by wireless since these early days, but throughout every phase of development the firm of Homecrafts lead the way, so that after a passage of 30 years, if you want any unusual equipment or technical advice, you still get it at Homecrafts.

Special Service for "HAMS"!

HOMECRAFTS offer—

Best Discounts on Latest Types of Equipment.
Let us quote your next requirements.

Homecrafts distribute Australia's most outstanding Radio—

THE ASTOR "BATTERYLESS" COUNTRY SET.

For Homes without electric supply.

THE ASTOR DUAL WAVE WORLD RECEIVERS.

Guaranteed International Broadcast Reception in Daylight.

— And the —

ASTOR CAR RADIO.

Homecrafts have an attractive sales proposition whereby your "hobby" will make money for you in your spare time.

WRITE FOR DETAILS.

Trunk Line: TL202.

HOMECRAFTS PTY. LTD.

Phone Cent. 8200

211 Swanston St. Melbourne, C.1



EDITORIAL

Wireless Institute of Australia 1937 Convention.

As is the custom each year, a Federal Convention of our Institute will be held in 1937.

This time Sydney is the location and the date is January 30th, 31st and February 1st.

The greatest drawback to the successful organization of Amateur Radio in this country, is a factor that "Hams" normally laugh at — "Distance."

For the proper functioning of the Institute throughout the Commonwealth, it seems necessary to have a Division (in each State), and the financial upkeep of these Divisions, is really out of all proportion to the number of amateurs in the various States.

The W.I.A. throughout the Commonwealth must expend yearly between £400 and £500 in rents alone. If we were not so widely scattered one Central Office would satisfy, and we could employ one full time representative to look after our interests. However this is not to be; to some other phase must we turn our activities to counteract this unbalance of "Ham to financial upkeep."

Let us take America; how much weaker would the A.R.R.L. be, if it was organized in every State. Happily over there the interstate boundaries don't count as ours, and they are successful in working from one Central Headquarters.

It seems we must turn to the previously mentioned convention as a means of overcoming the Distance Factor; and to obtain some relief from the millstone which deals so hardly with effective Amateur representation.

At least once a year Amateurs voice their approval or for that matter disapproval of suggestions that originate throughout Australia.

Unfortunately finance as well as distance, is again the Bugbear.

Representation from the outlying States involves considerable expense and often a Division must demur against such a costly outlay; however proxies to a degree solve the problem and the Convention proceeds to a satisfactory conclusion.

Glancing at the agenda paper for the 1937 Convention the outcome must be to the advantage of the Amateur. The majority of the items concern the Amateurs' relations with the Department. —The opening of the 112 and 224 Mc. bands — A request for 50 watts minimum power — A reduction in license fees.

Others concerning the Institute:— Issue of Worked all States' certificates, organization of a National Field Day, and many other items concerning the Politics of Amateur Radio, precisely 44 in all.

The Convention will soon be over and it should and it must be of interest to every Amateur to see the outcome of the one chief foil to that factor "Space" which affects so harshly our organization.

Wm. MOORE,
Federal President.

With this issue "Amateur Radio" is entering its fifth year of existence. As we stand on the brink of the New Year we look back over the Old. Through the co-operation of the other Divisions of the Institute through the past year the magazine has reached the standard of today. In wishing our contributors and readers throughout Australia a Happy, Bright, and Prosperous New Year, may we hope for a continuance of your co-operation in making a bigger and still better "Amateur Radio."

A Four Band Exciter and Buffer-Amplifier Unit

By VK3ML, Technical Editor.

No claims for originality are made in the construction of this exciter unit as an effort was made to duplicate the very same unit that appeared in QST for July 1935. There are however many reasons why an exact copy cannot be made, and the inability to duplicate the components used is one, therefore a description of the Australian model is likely to be of use to those who either missed reading the QST article or would prefer to construct a local equivalent.



Fig. 1.

This description is the first of a series which will, in two or three parts, cover constructional details of a 100 watt CW and a 25 watt phone transmitter. The finished rig consists of a 53-53 exciter driving the new 837 penthode which in turn supplies power to the QB2/75 or the 860 RCA equivalent. Relay rack mounting was chosen for simplicity and conservation of space. The rack is filled with six panels all told, comprising an aerial tuning, power amplifier, buffer, exciter and modulator panels; the lowest being a small switch board for the power supplies. Control grid modulation of the power amplifier tube was chosen after much thought and the main reason for favouring this system was the fact that little gear was to lie idle during CW operation. The rather large tube in the P.A. lends itself very well to efficiency

modulation because of the high anode voltage which is so desirable when the controlling electrode is to be modulated. After correctly tuning the outfit for tone by means of grid drive reduction, bias adjustment, and aerial load matching a very highly efficient 25-30 watt 100% modulated transmitter results. Screen grid tubes are favoured by the writer over three element ones for grid modulation. However, the purpose of this article is to describe the exciter unit in detail and leave

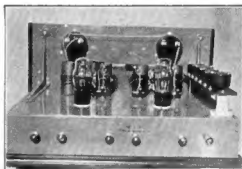


Fig. 2.

the rest of the "works" till later.

The primary consideration in the exciter stage was general flexibility. To be able to shift frequency to several parts of any one band and with the same amount of effort, from one band to another just by the flip of the switch or two, is an inexpensive luxury. The number of frequencies made available by the crystals are of course limited by the bank account. In this particular unit, six 80 metre crystals are used to cover from 75-85 metres; the six way crystal selector switch can be seen brought out to the panel in Fig. 1. Fig 2 shows the rear view of the exciter stage and Fig 3 illustrates the layout of the components under the chassis. The wiring diagram of Fig 4 explains the general hook-up better than words. It will be seen that the connections for the 53-53 oscillator-doubler section are

quite conventional and the only innovation is the use of tuned tank coils in each of the four plate circuits. The input triode of the first 53 is tuned to the fundamental of the crystal, that is 3.5-4 mc, and

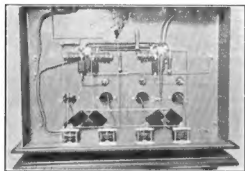


Fig. 2

the output of the second section doubles to 7mc. 14 and 28mc. outputs are taken off to the buffer amplifier from the 1st and 2nd triodes of the second 53 respectively.

the front panel. One plate milliammeter is used in the cathode of each 53, but, just the one meter made plug-in would be just as effective but of course not as instantaneous in operation.

The four tanks once peaked will require no tuning with crystals having fundamentals between 3500 and 3575 Kcs. The tanks are permitted to run constantly and therefore provide excitation voltage on tap at all times for driving the 837 tube. Capacity feed is used to the buffer direct off the plates of the 53's through a four way switch, the arm of which is hooked to the 837 grid.

Careful attention should be paid to the construction of the coils as it will save a lot of time when searching for a resonance dip if one knows that the L and C are suitable for covering the range.

The coil details are as follows:—

- L1. 3.5mc oscillator coil: 35 turns No 22, diameter 1½ in, length of winding, 1½ in.

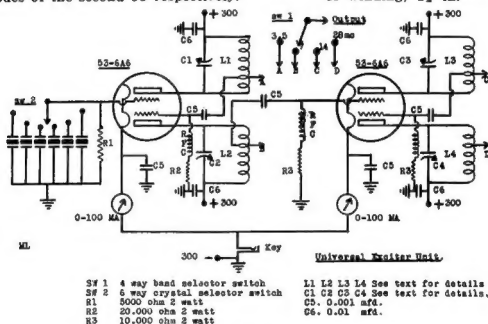


Fig. 3

Viewing the exciter from the rear in Fig 2 we have on the extreme right the strip on which are mounted the six plug in crystal holders. Next, along the rear of the chassis are the 35mc oscillator coil, the first 53, the 7mc doubler coil, the 14mc coil, the second 53 and finally, the 28mc doubler coil. The condensers for tuning each of the tank coils are mounted under the chassis and have control knobs brought out to

- L2. 7 mc doubler coil, 20 turns No 16, diameter 1½ in., length of winding 1½ in.

- L3. 14 mc doubler coil, 10 turns No 16, diameter 1½ in., length of winding 1½ in.

- L4. 28 mc doubler coil 3½ turns No 14, diameter 1½ in., length of winding ½ in.

The tank condensers were pruned to give the following capacities:—

- C1. 100 mmfd midget.

HAMS! Order

yours

NOW!!

Radio..... ur cw/phone sigs hrd hr atE.A.S.T.
on..... QSA..... R..... 1..... QRM..... QRN.....

V-K-S-L-M

Hrd U calling..... on the.....KC Band
RCVR..... ANT.....

Remarks.....

Pse QL h> e hr U agn 73 fm JOHN SMITH

Special cut Prices for High-Quality QSL's

We would be pleased to submit
original designs—write us for
suggestions; all States served.

WE can supply you with high-
quality QSL Cards printed in
two colors on an attractively
tinted board at—

| | | |
|------|-----|------|
| 12/6 | for | 250 |
| 17/6 | " | 500 |
| 27/6 | " | 1000 |
| 47/6 | " | 2000 |

or on the same board printed in
one color only—

| | | |
|------|-----|------|
| 10/- | for | 250 |
| 12/6 | " | 500 |
| 17/6 | " | 1000 |
| 27/6 | " | 2000 |

These prices are subject to 4%
Federal Sales Tax.

Boards and Ink of any desired
color available.

ELSUM PRINTING COY.

1025-7 WHITEHORSE ROAD, BOX HILL, E.11

M's W.I.A.

Telephone WX 2429

C2, C3, C4, 50 mmfd midgets

Ample size holes drilled under each coil permit sub panel wiring direct to the tube elements and bypass condensers. Fig 3 clearly shows the layout of the apparatus under the chassis.



Fig. 5.

Before passing to the buffer amplifier stage, let it be said that the tank coils will seldom tune to resonance with the data given unless the load to the 837 is connected.

In the original article in QST the author preferred to mount the next

A continuous link is run from all tanks to the final amplifier, and once again, a flip of the switch selects the band. Shunt feed is used for simplicity and insulation purposes.

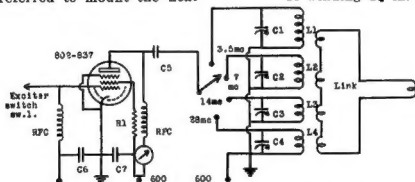
The coil specifications in this unit are:—



Fig. 6.

L1. 3.5 mc buffer coil, 30 turns
No 16, diameter $1\frac{1}{2}$ in, length
of winding $1\frac{1}{2}$ in.

L2. 7 mc buffer coil, 16 turns
No 14, diameter $1\frac{1}{2}$ in, length
of winding $1\frac{1}{2}$ in.



Buffer-amplifier unit.

- C1. 100 mfd midget.
- C2, C3, C4. 50 mfd midgets.
- C5 .001 mfd mica.
- C6, C7. .01 mfd.
- R1. 10,000 ohm 2 watt.

Each link is of two turns around the "cold" end of the tank coils.

Fig. 1.

tube following the 53's on the same chassis; however, opinions differed slightly here and it was decided to leave plenty of room and use up another piece of bakelite and aluminum. Figs 5 and 6 illustrate the front, rear and underneath appearance of the 837 stage; whilst Fig 7 shows the circuit design. Again, very little is unconventional, the only outstanding feature being the four tuned tank coils along the rear of the chassis and clearly seen in Fig 6.

L3. 14 mc buffer coil, 9 turns
No 10, diameter $1\frac{1}{2}$ in, length
of winding $1\frac{1}{2}$ in.

L4. 28 mc buffer coil, $3\frac{1}{2}$ turns
No 10, diameter $1\frac{1}{2}$ in, length
of winding $\frac{3}{4}$ in.

Originally, two 6P6's were used in this unit, but when connected in parallel gave too high an output capacity and required neutralizing, which was to complicate things a little and so the one 837 was decided

(Continued on page 10)

28 and 56 Megacycle Activity

By E. H. Conklin, W9FM.

The summer short skip did not bring the expected number of contacts during the past several months. Conditions were satisfactory, it appeared, but a sufficient number of stations was lacking. We admit that it is quite a "grind" to keep listening and calling on "five and ten" when we should be out in the sunshine. That long five-metre work was possible since the memorable night of May 9 is evident from short-skip conditions on ten metres. J. J. Michaels, W3FAR, reports from North Wales, Pa., that 28 MS signals from as close as Cleveland (on 16th June) have been heard in June and July; on other occasions Indianapolis, Chicago, and other stations were heard. Five metre work over a distance of 700 to 1000 miles was probably possible at the same time.

British Accomplishments.

From E. H. Swain, G2HG, we have received several very nice letters on the subject of five-metre DX reception. Table 1 shows how many signals—mainly commercial harmonics, but some amateurs—have been heard from four continents. The CW station calling "CQ dx" on 23rd May was outside of England, because G stations must use "test"; the signal had a bad flutter, and only a 9 and a Y were made out. The station was not W9NY. The CW station heard two days later was actually calling "CQ dx 56 mc." On the day between, fading phone carriers were heard by two different British stations.

We have often expressed question as to whether or not the received signal travelled on 56 mc, but later check-up usually has been successful in showing that the receiver was not also sensitive to a 28 mc. signal. The G stations reporting the above dx reception have been active on both 28 mc. and 56 mc.; we do not doubt the accuracy of the data. A few of the commercial harmonics may have been on a frequency several megacycles lower, such as LCP on 44 mc., but, like long-distance reception of U.S.A. police transmitters on

40.1 mc., this work is notable. G2HG makes these comments:—

"In addition to the stations listed in the schedule (see table 2), I know that G2AW, G2MV, G5CM, and G5OJ are using plain cw on 56 mc. There are, of course, plenty of chaps using the usual phones with self-excited oscillators. From the logs, it is apparent that there should be every chance of G-W work on this band. It is a great pity that most of your fellows are not keen on cw reception down on five, because I think you will agree that plain cw stands a better chance for working dx than phone, especially if a wobulated oscillator is used."

VK2LZ Reports TDC.

Not all of the 56 mc. dx reception has taken place in Europe. According to the May issue of Amateur Radio, published in Australia, VK2LZ has built a new super that goes down to 56 mc. He has heard TDC on it. The latter station, we understand, is in Manchukuo, or thereabouts.

South Africa Also Active.

A letter from O. W. Reid, Z32A, states that last season he heard police cars and dispatcher stations regularly, also a station broadcasting music well below them. Reid is using a 35T on exactly 56,000 and 57,600 kc. ZS1H and ZS2Y are also preparing to make a hole in the five-metre band.

Since our reports of long distance five-metre work carried out, in the June and July issues, we have received quite a number of confirmations from both the eastern and mid-western stations. John Videberg, W1TYX, of Waterbury, Conn., describes his work as follows:—

"I had the antenna pointed toward New York City. The W2's were coming through very poorly—it was not a "good" five-metre night. Then I heard a couple of ninth district stations. When I pointed the beam toward Chicago they came up to RS and R9. I heard W9LBP and another. Then I worked W9UAQ, who was R9. These signals were

Now Ready VEALL'S NEW CATALOG

Just off the press—right up to the minute—the biggest Radio and Electrical Catalog published in Australia.

76 Pages 500 Illustrat'ns

Every page packed with illustrations and descriptive matter of interest to all Hams. Write for your copy to-day.

Merely enclose a 2d. stamp to defray postage—the Catalog is Free.



VEALL'S Four Big Stores

Everything Radio & Electrical

243-249 Swanston St., Melbourne
168 Swanston St., Melbourne
299-301 Chapel St., Prahran
3-5 Riversdale Rd., Camberwell

Cent. 3058 (6 lines), 10524,
Wind. 1605, W 5160.

characterised by short and rapid, though severe, fading, always coming right up instantly. This was between 11.30 p.m. and 1 a.m. eastern daylight time."

Videllberg said that on 29th April and 1st May the band opened up for the first time this year for 100-200 mile dx. Again, from 6th-11th June, the W2 and W3 stations were coming through in Waterbury, Conn. This work is not, of course, K-H layer dx, and often carries through until sunrise or later. A very long list of W2 and W3 stations were worked, making use of an H type beam with a similar reflector. This type is simple to build, holds the beam down to useful low angles, and is not too highly directional.

Very little 100-200 mile work is reported from the mid-west. This might be due to the absence of high hills, the lower density of population, and the failure to use beams. W9PEI, in Chicago, we understand, occasionally hears a high-powered Kalamazoo, Michigan, station as loud as local 56 mc. phones. Apparently, Chicago stations have been unable to raise the Kalamazoo station, though. Because 28 mc. cw stations are often heard at 100-300 miles, we suggest that the gang on "five" arrange their receivers for straight cw reception and cover the band occasionally for weak carriers and code signals.

To increase the chance of hearing dx, we suggest improving the antenna input to the receiver by stacking the antenna and tuning the transmission line or feeder properly. A vertical double-zepp at least might be used, for good low-angle pickup without directivity.

28 Megacycles.

After hearing NY2AE pound in on ten-metre phone Sunday, 16th August, and old-time conditions during the evening of the 17th, we feel like broadcasting news of returning excellent conditions on "ten." In five minutes we heard W1DZE working VK4BB, W4EED working W8AGU, and talking about raising VK3BD, W4DSY discussing the same with W4BEB, XE1AY, calling CQ, then calling W3HC, a W3 calling a W6. Some of these were R9 phones, with chance of error in calls. A combination of short skip plus dx signals made for interesting work.

. . SUPPORT YOUR ADVERTISERS

The ten-metre band has been open with short skip a good share of the time this past summer, but the absence of consistently good dx conditions has taken its toll of stations. Throughout the summer there have been occasional contacts with all southern hemisphere continents, and once in a while a signal gets across the Atlantic—but generally much later than the time considered usual last winter.

Many logs show reports of 1000-mile contacts when neither station could hear another signal, while often there were numerous harmonics of 14 mc. stations to indicate wide-open ten-metre conditions. Several stations have reported calling CQ when the band appears dead, a fine QSO with someone resulting.

Southern Hemisphere Conditions.

Winter conditions in the southern hemisphere permit very fine east-west work on "ten," although the low number of active stations in South America and Africa makes conditions seem spotty to observers, particularly those in Australia. The VK's find that W signals are weaker and that those using beams are most successful, even though low power is used in some cases. Only a few Europeans are getting through to Australia.

The VK's claim that the equinox periods—roughly, March, April, September, and October—are the best. On the average for the world, we can agree, but mid-winter seems very satisfactory for east-west work, provided that the distance is not so large that the daylight path doesn't

extend to both stations, such as Japan and Eastern U.S.A.

Night Conditions.

During the late spring and summer there have been numerous reports of abnormally late reception. Just as last summer, two-way U.S.A. work was apparently at its best from dark to midnight. G2YL mentions that LU9BV, PY1AW, and the six eastern W districts were heard from 2100 G.c.t. until after midnight on 24th May. G6DH worked W2DTB after midnight, British daylight time. On 24th June a weak W3 phone was heard five minutes after midnight—the only W signal heard that month in England. Aussies have been working W stations evenings rather than mornings, just as during last summer.

(Continued from Page 7.)

upon. The 802 would work as well of course. A C bias unit is incorporated in the power pack and both the buffer and power amplifier stages draw grid voltage from this supply

The two units as they are will provide ample power to the aerial for a lean purse and the 837 offers excellent modulation possibilities in the suppressor grid lead. In conclusion, the panel and chassis dimensions are:—

Exciter stage panel, 19 x 10 in;
buffer, 19 x 8 in.
Exciter chassis, 18 x 12 x 3 in;
buffer, 18 x 2 x 2 in.
The bakelite being $\frac{1}{4}$ in thick
and the aluminium of 18 gauge.

QUARTZ CRYSTALS

Every Crystal tested to 50 watts input to Penthode Crystal Oscillator
Accurate grinding to .03 per cent. 3.5 M.C., 20/-; 7 M.C., 30/-
100 K.C. Xtals. 465 K.C. Xtal "Gates. Prices on application

PROMPT DELIVERIES

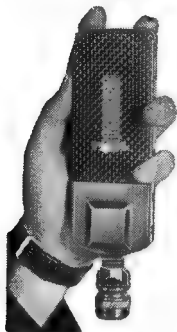
MAXWELL HOWDEN (VK3BQ) CONS. RADIO ENGR.

13 Balwyn Road, Canterbury, E.7.

AUSTRALASIAN ENGINEERING EQUIPMENT CO.
PTY. LTD.

"Evans House" 415 Bourke Street, Melbourne, C.1

"Bruno" Velocity Mike



as used by

Leading American
Stations

||||

LIST PRICE £10-10-0

FULL PARTICULARS ON
APPLICATION

Has a Frequency response plus or minus db from
50 to 12000 cycles

BIRNBACH PORCELAIN INSULATORS

"BIRNBACH" Insulators are made in White and Brown Porcelain. Types with prefix J denote Jack Type for Standard G.R. Plug. All others are fitted with Screws.

For a Special Quote on these lines SEE US.

| Type | Height | Price | Type | Height | Price |
|-------|--------|-------|------|-----------|-------|
| 458 | 1 | 1/8 | 866 | 1 5/16 | 1/8 |
| 478 | 1 | 2/6 | 866J | 1 7/16 | 2/- |
| 478J | 1 | 3/- | 966 | 1in. | 1/2 |
| 4125 | 1 1/2 | 3/- | 966J | 1in. | 1/6 |
| 4125J | 1 1/2 | 3/6 | 400 | G.R. Plug | 1/6 |



FINE GRANULE MICROPHONE CARBON

We have small supplies of this carbon in stock, of the Polished Granule Type which we can sell to Amateurs only at 12/6 an ounce nett

S.A.R.R L's "Johannesburg Jubilee"

International DX Competition
January, 1937

The "Rand Daily Mail" presents handsome trophy for highest DX scorer. Johannesburg and British Empire Exhibition centre of attraction. All stations in the world vs. Southern Africa. "Africa" divided into 27 zones, viz., ZS1-6, ZT1-6, ZU1-6 (18 zones), ZE1, VQ2, FR8, FB8, CR7, CR6, VQ3, ON4, VQ8. All stations call "Test JB" or "CQ JB." Two points for complete exchange of six-figure group or serial number comprising RST report, followed by self-assigned serial number to be used throughout contest. Four points for

10 metre "exchange" to stimulate activity on 28 mc. U.S.A., Australia, New Zealand and Canada divided into their respective divisions. Highest scorer in each DX division or prefix zone will receive handsome Certificate. A special Certificate to the highest scorers in each division of South Africa, and the beautiful trophy presented by the "Rand Daily Mail" will be awarded to the highest scorer outside South Africa. Open to the world. No previous entry necessary.

By W. H. Browning (ZU6E).

The South African Radio Relay League staged its first DX competition in 1927. Known as the "Springbok Trophy Contest," it was a great success and succeeded in establishing a bond of friendship between American and South African Amateurs which has developed with the passing of time.

Jefferson Borden, WICMX, proved the winner, and was awarded the "Silver Springbok" kindly presented by South Africa's leading daily paper, "The Rand Daily Mail." This year marks the opening of the wonderful British Empire Exhibition in Johannesburg, and also the 50th or "Jubilee" year of the City of Johannesburg, that mining camp of 50 years ago which has grown to be one of the greatest cities South of the Equator. In honour of the double event the S.A. Radio Relay League have decided to organize an International DX contest on the same lines as the Melbourne Centenary contest staged two years ago by Australian amateurs, and thereby hope to provide amateurs the world over with the opportunity of contacting Southern African stations, and at the same time focus the attention of the whole world on our great exhibition in Johannesburg.

All amateurs throughout the world

are heartily invited to participate in Johannesburg's Jubilee.

General Plan.

"The Rand Daily Mail" have generously donated a handsome trophy for presentation to the world's highest scorer, i.e., the amateur outside the African zone who turns in the highest score. Certificates will be awarded to the winner in each country or prefix zone. In addition the following countries have been subdivided into their respective amateur districts. The United States of America W1 to W9, Canada VE 1-5, Australia VK 1 to 8, and the highest scorer in each of these 23 districts will receive a certificate.

Multiplier.

For the purposes of computing their scores, African amateurs will multiply the total points obtained by the number of countries or prefix zones worked. The three above-mentioned countries will provide a possible multiplier of 23 in addition to all other countries worked. DX countries (outside Africa) will multiply the points obtained for exchange of serial numbers by the number of African zones worked:—Angola CR6, Belgian Congo ON4,

Amateur Radio

Northern Rhodesia VQ2, Southern Rhodesia ZE1, Madagascar FB8, Reunion FR8, Mauritius VQ8, Tanganyika VQ3, and the Union of South Africa ZS1 to 6, ZT1 to 6, and ZU1 to 6, a total of 27 "zones" or total multiplier of 27.

Points.

Only one contact is permitted between stations on each band, but if an exchange of serials was not effected on the first contact, the two stations may contact each other later to complete exchange.

See the sample log below.

If the prophets are right, January will see a return of 10 metre activity. And to ensure that this band will carry a fair share of the "traffic," double points will be awarded for exchanges on this band. In this manner "10" is likely to prove one of the most productive point scoring bands.

The Contest Period.

To avoid misunderstanding and possible confusion Greenwich mean time has been adopted, and the con-

SAMPLE LOG.

| Number. Contact | Date. | GMT. | Station Contacted | Frequency Megacycles. | Prefixes. | Serial Transmitted. Number | Serial Number Received. | Points Scored |
|--|----------|------|----------------------|--------------------------|-----------|----------------------------------|-------------------------------|------------------|
| 1 | 7/11/36 | 0410 | ZUGP | 28 mc. | ZU6 | 459123 | 449375 | 4 |
| 2 | 7/11/36 | 0425 | ZS1H | 28 " | ZS1 | 479123 | 559216 | 4 |
| 3 | 7/11/36 | 0517 | ZS2A | 28 " | ZS2 | 589123 | 578737 | 4 |
| 4 | 7/11/36 | 0821 | ZT9K | 28 " | ZT9 | 458123 | 549877 | 4 |
| 5 | 8/11/36 | 0714 | ZS6A | 28 " | ZS6 | 559123 | 578641 | 4 |
| 6 | 14/11/36 | 0729 | ZU5U | 28 " | ZU5 | 579123 | 349145 | 4 |
| 7 | 21/11/36 | 0800 | ZE1JJ | 28 " | ZE1 | 469123 | 449804 | 4 |
| 8 | 21/11/36 | 1500 | ZS6T | 14 " | | 349123 | 559665 | 2 |
| 9 | 21/11/36 | 1542 | ZUGM | 14 " | | 389123 | — | 1 |
| 10 | 21/11/36 | 1554 | ZT1Q | 14 " | ZT1 | — | 394444 | 1 |
| 11 | 28/11/36 | 1425 | ZT1R | 14 " | | 439123 | 449141 | 2 |
| 12 | 28/11/36 | 1630 | CR7ZS | 14 " | CR7 | 537123 | 339888 | 2 |
| 13 | 29/11/36 | 1900 | CR7AD | 7 " | | 558123 | 459771 | 2 |
| 14 | 29/11/36 | 1935 | ZS6AF | 7 " | | 559123 | 559222 | 2 |
| Points | | | | | | | | 40 |
| Total Prefixes 9, multiplied by 40 = Grand Total | | | | | | | | 360 |

Amateurs in "South Africa" will endeavour to establish contact with DX stations and to prove satisfactory qso a serial number of six figures must be sent to and acknowledged by, the DX operator, who will transmit a six figure "serial number" to the S. African. This serial number will contain a report based on the RST system for the first three figures, and the balance of the number will comprise a self-assigned number of three figures to be used by the station throughout the contest.

When a complete exchange of serial numbers has been effected both operators claim two points. (Four points for 10 metre qso.)

If an operator sends a serial number successfully, but fails to get a serial reply, only one point is claimed by each operator. (Two points for 10 metre.)

(test will run over four week-ends of January, 1937, commencing:—

Saturday, 2nd January, at 0400 GMT, through Sunday, 3rd January, to 2200 GMT, and thereafter over the three remaining week-ends at the same time, ending at 2200 GMT, 24th January, 1937.

"CQ JB."

It has been established that African amateurs achieve results by calling "CQ," and this procedure is to be recommended during the contest. Less qrm is likely to result in this manner, and all stations will call "CQ JB." DX stations are advised to call individual African stations in preference to sending out random CQ's.

The main competition each operator has to consider comes from

(Continued on Page 17.)

Gain of Beam Antennas

Some Comparisons on 28 MC.

By E. H. Cox, VK2GU (ex VK2EP,
VK3BD).

Experimental results which have been obtained with two beam antennas at present in use at VK2GU may be of some assistance to those who contemplate a change over from an all-purposes radiator to one cut for a particular band, and operating in a particular direction. The writer has been impressed recently with the evidence which is accumulating to show how widely directive antennae are being employed in the United States of America on the 28 MC band, but up to date, there has been a lack of evidence that Australian amateurs are employing this aid to high-frequency communication to the same extent.

The writer has reached the conclusion, after experiments extending over 18 months, that the ideal antennae system for the 28 MC band for the eastern States would be one consisting of two independent beam antennas, not backed by reflectors, and arranged so that one points on to North America, giving a back lobe which would embrace South Africa, and the second pointed on to Europe, giving a back lobe which would take in South America. Two such antennas have now been installed. They are arranged so that either can be used at will, and so that the change over, and consequential re-tuning of transmission lines, takes less than 30 seconds. Since they are set approximately to right angles to each other, and since, as a result, the line of the lobe of maximum radiation, or responsiveness of one corresponds with the "blind" area of the other, it is possible very easily to compare their effectiveness in communication in various directions.

The following tabulation summarises the results obtained with the two antennas on a number of typical stations when the antennas were used for receiving only:—

| | North-West | | North-East | |
|----------------|------------|--|------------|--|
| | Beam. | | Beam. | |
| JNJ (Harmonic) | R9 | | R3 | |
| JNB (Harmonic) | R8 | | Inaudible | |
| W1TW | R2 | | R8 | |
| W2TP | R2 | | R7 | |
| W3AIR | Inaudible | | R7 | |
| W4FT | Inaudible | | R8 | |
| W5BEE | R1 | | R8 | |
| W6ITH | R4 | | *R9 | |
| W7FQK | R1 | | R9 | |
| W8ANO | Inaudible | | R8 | |
| W9TTB | R2 | | R9 | |
| VS6AH | R9 | | Inaudible | |
| G2PL | R8 | | Inaudible | |
| G5GQ | R7 | | Inaudible | |
| G6LK | R9 | | R2 | |
| OH3NP | R7 | | Inaudible | |
| F8CT | R8 | | Inaudible | |
| J2IS | R8 | | R4 | |
| J2LU | R7 | | R2 | |
| J3FK | R8 | | R3 | |
| Zs1H | Inaudible | | R7 | |

*This station so loud on the NE beam that the input to preselector is always detuned about 250 KC to prevent overloading and unintelligibility of signals. This accounts for the relatively strong signal received on the north-west antenna.

The signal strengths given are not intended to represent either average or peak values in any case. In general, it may be of interest to note that the values given for the American signals are about average values, while those given for the European stations are peak values, which in most cases are about two points above average level. When each of the comparisons tabulated was made, the observation was taken at a time of loud signals on the correct beam, so that there would be some chance of a response on the other one.

Although fewer observations have been made on the relative signal strength from the two antennas when used one after the other to transmit to any given point, the results indicate that the gain in signal level due to the directivity of the antennas for transmitting pur-

poses is strictly comparable with the gain in received signal level. The beam bearing on North America was first installed, and while it alone was in use, it was almost impossible either to hear or to be heard in Europe. K6MVV reports the signals from the European beam R3 when those from the American beam are R9. W2TP reports a level of R8 on the American beam corresponding with one of R3 on the European beam. When the signals from the American beam were being received by him at R7-R9 W6MDN was unable to hear those on the European beam.

The employment of the two-beam antennas simultaneously has provided interesting proof that in all normal circumstances signals adhere very closely to the great circle path round the earth. About midnight at the time of writing (mid-November) it is possible to communicate with both European and East Coast American stations, the signals to the latter almost certainly going round "the long way," and appearing before the fade-out of the Europeans. However, even at this time, American signals cannot in any circumstances be heard on the European antenna, but they appear in considerable numbers when a change over is made to the American antenna. In this case, it appears that the route of communication to America is south-westerly about half way down the Antarctic Ocean, then up over South and West Africa, and the North Atlantic into the United States.

LACQUERING ALUMINIUM PANELS.

VK3DP.

When building new aluminium chassis and panels spray them with lacquer instead of the usual caustic baths, etc. First clean the aluminium with fine emery cloth or steel wool to remove the greasy surface. Next obtain one tin clear lacquer, one tin of thinners, some aluminium bronze powder, and a hand pump fly spray. Mix the lacquer and thinners to a 50-50 mixture and add about two teaspoonsful of bronze. Mix well, and pour into the container of the pump. Hold

the spray about a foot away from the panels and commence pumping. Cover the job evenly, and then allow it to dry. Spray again until covered to your satisfaction. When using this aluminium lacquer it is best to do it out in the sun, so it will dry quickly, and not go streaky. Colour lacquers can be used in the same manner. They only require thinning in the same way. It is also ideal for coating tank coils, etc. The lacquer will cover any materials—steel, brass, copper, etc. When the job is finished clean the spray with a little of the thinners ready for the next job.

WAR IN PORTUGAL.

Amateurs Off the Air.

"Segundo determinaco superior, foi expressamente prohibido o funcionamento das emissoras de amador!"

The Portuguese Government in these words has forbidden amateur operation in that country during the present state of civil war and disorder.

The journal of the R.E.P., "QSL," in the last issue received by VK3RX, contained the information that all CT stations were off the air as far as transmission was concerned, but they were allowed and encouraged to listen to CT1RP, the official station at Lisbon, which has been taken over by the Director of Electric Services and which broadcasts news to families who are otherwise isolated. A special telephone line has been installed and the station is on telephony. Much of the news is for the benefit of their Spanish colleagues who are apparently in the dark as to the progress of the fighting.

The R.E.P. appeals to its members not to go on the air without authority, as it would prejudice their future existence and destroy the official confidence that they at present enjoy.

**SUPPORT YOUR
ADVERTISERS !**

**AND MENTION
"AMATEUR RADIO"**

Federal Headquarters Notes

FISH TROPHY 1936

We have pleasure in announcing that Queensland Division are the winners of the Fish Trophy for 1936 and are now entitled to hold the cup permanently. The contest enjoyed quite a fair amount of success this year, but, as is usual with contests, the number of logs submitted, does not nearly equal the number of stations which participated in the contest. As this contest has withdrawn the cup from circulation, in all probability a similar contest will be arranged for 1937.

Scores :—

| | |
|-------------------------|------|
| States :—1st Queensland | 3530 |
| 2nd Tasmania | 2962 |
| 3rd N.S.W. | 3515 |
| 4th South Australia | 2330 |
| 5th Victoria | 2235 |
| 6th W. Australia | 2160 |

Individual Scores:—

| | |
|-----|------|
| 6SA | 1705 |
| 4BB | 1260 |
| 2VN | 1230 |
| 5KL | 1175 |
| 4AP | 1160 |
| 4AW | 1110 |
| 7KV | 1100 |
| 3ZC | 1075 |
| 7JB | 1024 |
| 7AB | 838 |
| 2NY | 800 |
| 3RJ | 780 |
| 5LD | 595 |
| 5RH | 560 |
| 5FM | 500 |
| 2YC | 485 |
| 5JT | 475 |
| 6MN | 455 |
| 2PF | 415 |
| 2IG | 405 |
| 3HG | 380 |
| 3YR | 325 |
| 5LL | 325 |
| 5JH | 285 |
| 2HZ | 275 |
| 3MK | 275 |
| 5HR | 205 |
| 3WQ | 205 |
| 4NO | 196 |
| 2TJ | 180 |
| 2EL | 168 |
| 3AT | 155 |
| 3XB | 102 |
| 5RD | 87 |
| 2DA | 22 |

FEDERAL CONVENTION.

The following tentative arrangements have been made for the 1937 Federal Convention.

Sat. 30th January. 2-5 p.m. Business Session.

8 p.m. Annual Dinner of the New South Wales Division and welcome to delegates and visitors, at the Dugowan Cafe, Martin Place.

Sunday, 31st January. Will be devoted to business sessions, and if business finished in time arrangements will be made for visiting shacks etc.

Monday, 1st Feb.—Visits have been arranged to Bunnerong Power House and the Radio centre at Pennant Hills followed by a tour of Sydney.

Any intending visitors to Sydney should get in touch with the Secretary who will endeavour to arrange accommodation.

Federal and Victorian QSL Bureau

R. E. Jones, VK3RJ, Qsl Manager.

VK5MZ, Jack Lawrence, passed through Melbourne en route to VK5 from Sydney. During his brief stay 3FB and 3WP did the honours.

Tommy Elliott, VK3ZW, is to leave for India for a six months' sojourn early in 1937. Have a good "snake bite" antidote on hand here for the asking.

Fred 3FB and Cliff 3WP are holidaying at Portsea during the forthcoming holidays, and expect to announce themselves through portable rigs.

The long-dreaded batch of German listener cards from the recent D.J.D.C. contest have arrived. Friend Jimmy Corbin, 2YC, had the "pleasant" task of primary distribution. He took courage in the fact that the total weight was only 7 lbs.!!

Jim. Hillhouse, VK4ZO, of Collinsville, Nth. Qld., who is enjoying good health again after a severe accident months ago, will be in Brisbane during Christmas, and may be found at 4EL's. Jim., who will be on Xtal on most bands shortly, reports wonderful DX heard on 28 MC.

Arthur Shields, VK3GP, had the misfortune to blow a tranny during the recent VKZL test when doing very well.

Amateur Radio

Bill Murphy, a well-known VK3 listener, who is now servicing for Messrs. Pike Brothers, of Townsville, still hears good DX when heat and static permit. Keep your elbow supple, Bill, and regard this as an acknowledgment of your letters.

To 2QH-2ABG.—Many thanks for appreciative remarks on 2YC's and my own services, and for the good wishes.

Best wishes to all hams for the Xmas season, and 100 per cent returns for the forthcoming year.

Cards are on hand at this Bureau, 23 Lansdale-st, Box Hill, for the following VK3's:—

AD, AP, AT, AX, BG, BL, BK, BS, CA, CD, CW, DD, DJ, DQ, DR, DT, DZ, EL, EQ, ET, EZ, FJ, FL, FM, FR, FZ, GA, GB, GD, GH, GJ, GO, GX, HB, HD, HE, HN, HK, IL, JA, JE, JZ, KA, KD, KG, KO, KY, LG, LP, LQ, LT, MX, NG, NU, OI, OJ, OL, OU, PG, QE, QZ, RQ, RW, RV, RZ, SA, SB, ST, TB, TE, TO, UD, UJ, UO, VK, WC, WM, WX, WZ, XA, XG, XJ, XR, XV, ZB, ZG, ZJ, ZU, ZW, Ballarat, Geelong, Sebire.

(Continued from page 13)

operators in his immediate division or country in the case of South Africans using the same prefix, e.g., ZS1 stations will be in direct competition with stations using that prefix, and ZU6 stations will compete with each other for the highest score in their "prefix" group. In this manner there will be 18 certificates awarded to amateurs in the Union of South Africa, with the possibility that the

certificate for the highest "South African" score will be awarded to a Union station.

In all other localities amateurs will be in direct competition with those amateurs using the same prefix. There will be nine districts certificates for U.S.A. plus a national "highest score" certificate. Competition is likely to be keener as a result of this decision, particularly in the countries which have been subdivided into their respective districts.

World's Highest Scorer.

"The Rand Daily Mail" trophy will be presented to the DX operator (outside the South African zone) who, in the opinion of the judges, returns the highest score.

The Competition Committee of the S.A.R.R.L. will be responsible for the adjudication, and the decision of the President of the S.A.R.R.L. will be accepted as final in case of dispute.

Entries.

No prior entry need be made, but each competitor must submit a log at the conclusion of the contest, to reach Johannesburg not later than 31st March, 1937. The results of the contest will be published in "Q.T.C." as soon thereafter as possible.

Entries should be addressed to

THE SOUTH AFRICAN RADIO
RELAY LEAGUE,
P.O. Box 7028, Johannesburg,
South Africa.

HAMS!!!

Ask
to be placed
on our special
wholesale list

Price list on application. Satisfaction & service guaranteed

PALEC & SLADE Universal METERS

Scale / A.C. & D.C. Volts, Ohms,
Electrolytic and Microfarad Tests

38/6

ISOLANTITE SOCKETS

2/-

MORSE KEYS, Good Quality

30/-

P. & L. WIRELESS SUPPLIES PTY. LTD.

31 Hardware Street, Melbourne, C.1 (Note New Address)

OPEN FRIDAY NIGHTS

Phone F 4323

R.A.A.F. Wireless Reserve Notes

Officer Commanding: Flying Officer R. H. Cunningham, 397 High Street, Glen Iris, S.E.6, Victoria (VK3ML).

District Commanders—

Second District, N.S.W.—A. G. Henry, Clareville Avenue, Sandringham (VK2ZK).
(VK6MN).

Seventh District, Tasmania—R. Cannon, Goldie Street, Wynyard (VK7RC).

Third District, Victoria—Pilot Officer V. E. Marshall, 3 Myrtle Avenue, Kew (VK3UK).

Fourth District, Queensland—A. E. Walz, Sandgate Road, Nundah (VK4AW).

Fifth District, South Australia—F. M. Gray, 52 Ormond Grove, Toorak Gardens (VK5SU).

Sixth District, West Australia—S. J. Madden, Dundas Road, Maylands

NOTES, 3rd DISTRICT.

(3ZI-VK3UK).

Victoria is in the throes of another alteration to the existing state of things. Our old method of allocating sections, in which each section contained at least one Metropolitan station has outlived its usefulness and so we have reallocated all stations so that each section becomes geographically small. Under the old scheme with members becoming inactive for a period, and for other reasons, over a stretch of four years a section could contain men from the length and breadth of Victoria. It was alright when conditions were good but became hopeless on days when skip was bad. Now we have all metropolitan stations in the same sections and all the country men in sections that surround a large town. Thus any specialised training will be extremely simple, as a member will only have to go to the town around which his section is based. Like all changes, this one was a hard one to make as most members had held their calls since they were first given to us. Again, a move such as this has a danger in that the section spirit that has been built up over a period of years was broken by the move. However with such a wonderfully enthusiastic bunch of fellows as we have here, the danger is a small one and a new section spirit will be developing almost before the sections have settled down.

The recent "WAR" that was run here as an exercise has now been finally completed with all results

checked. The station winner was 3D6 and the section winner VMC4. 3D6 deserves hearty congratulations not only for winning the station Trophy but also for the section win, which was due in no small measure to the work and initiative of this station. Our congratulations to the other members of VMC4 for their great work. The result was very close as only a few points separated VMC4, VMC3 and VMC1. The results were arrived at from the Accuracy, Initiative, Procedure, and Message handling ability shown. All stations had to submit their Log Book and entries were cross checked for correctness of entry. The standard of the Logs was particularly high, especially as the test necessitated many pages of entries.

The present Training course that has been running in VMC6 has now finished and the members will take their places in the permanent sections. We start off immediately with the first schedule of the New Year with another full Training section and also have members awaiting the course after that. Ivan Hodder deserves all the credit of the wonderful success of the Training section. For the benefit of those who do not know the workings of this section, it might be of interest to say that it has two purposes. One, to train new members in Procedure so that they can enter the main sections after completing the course, fully trained. Two, to provide regular members with a refresher course on their return to activity after having been away from schedules for a period. Thus the standard of

Amateur Radio

efficiency of the main sections is not affected by alterations to personnel.

VK3MK who was one of our newer members has been transferred to N.S.W. and can assure VMB they are gaining a very enthusiastic member. We are very sorry to lose Lindsay, just when he had settled down to Reserve work so well.

All members and Hams generally will be very sorry to hear that 3D4 T. Powers had his transmitter and quite a lot of gear destroyed by fire during Saturday 12th. We sincerely hope that insurance will cover, at any rate, the majority of his loss and that he will be back on the air soon.

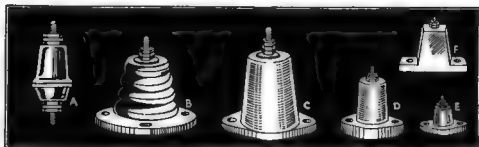
TECHNICAL ARTICLE CONTEST.

The two announcements made in the August issue of Amateur Radio in regard to the enterprising co-operation of the New South Wales Division in offering a prize of one

guinea for the most outstanding technical article up to October 31st, 1936, brought forth a number of contributions of high grade. Difficulty was experienced in making the award owing to the varying nature of the subjects and consequently the point of the "greatest appeal" had to be considered.

It is our pleasure to announce that Peter Adams, VK2JX, was awarded the prize by the judges who offer their heartiest congratulations to 2JX for submitting an article that was based on sound experimental knowledge, and illustrated pains taking care in the investigation of the subject and in its presentation for the contest.

It is hoped that the contributions of technical articles now that this contest is over will continue throughout the year in order that we may have an unlimited supply for forthcoming issues.



American Made Porcelain Insulators

| | | | | |
|--------|-----------------|-----------|----------|-------------|
| TYPE A | BROWN PORCELAIN | LEAD THRU | 1in | 1/3 |
| " B | WHITE | " | HOLD OFF | 1 1/2in 1/- |
| " C | " | " | " | 1 1/2in 9d. |
| " D | " | " | " | 1in 6d. |
| " F | " | " | " | 1in 6d. |

(Type E not available)

Prices Radio Service

D. G. McINTYRE
5 & 6 Angel Place, Sydney

A Simple Keying Monitor

By R. Anderson VK3WY

After having spent a fair amount of time listening around the bands during the last couple of months one is forced to the conclusion that if a large number of hams could hear their own fists they would be in for quite a shock. In other words many of the fists to be heard on our bands at present are decidedly poor. One of the main troubles, I think, is that a ham very seldom indeed does hear his own fist. Fortunately this can be rectified by using a simple keying monitor.

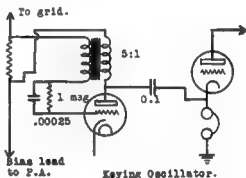
The desirable features for a keying monitor seemed to be:—

1. ability to follow keying perfectly.
2. should not materially interfere with the receiver.
3. should not require switching of phones from keying monitor to receiver and vice versa.
4. should not require any tuning when once installed.
5. should give a pleasant note.
6. should be simple in design and preferably cheap in cost.

These requirements are met in the simple keying monitor to be described.

The monitor actually consists of a simple audio oscillator for which the plate voltage is obtained by utilizing the voltage drop across a resistor inserted in series with the grid bias lead to the P.A. of the transmitter. When the transmitter is keyed grid current will flow through the resistor in the bias lead causing a voltage drop and hence oscillation in the audio oscillator but when no grid current is flowing the oscillator will be silent. The voltage necessary on the plate of the audio oscillator tube is very small and usually from 3 to 4 volts is sufficient. Knowing the value of grid current in the P.A. the value of the resistor required to give this voltage drop may be easily calculated. A good idea is to use one of the old 250 ohm potentiometers as a variable resistance and to vary the resistance until best results are obtained from the oscillator.

The values of the components shown in the circuit give a pleasing 1000 cycle note. The note may be varied to suit individual tastes, however, by changing the value of the grid condenser and resistance. It is interesting to note that should at any time the note from the transmitter become rough it can be immediately detected via the keying monitor as it will be found that the note from the monitor will roughen up as well.



To obviate the necessity for switching the phones from the receiver to the keying monitor, the phones were taken out of the plate circuit of the audio tube in the receiver and were put between the cathode and ground. The phones in this position give exactly similar results for the receiver and this position also has the advantage that there is no high voltage on the phones.

The plate circuit of the audio oscillator was then connected to the cathode side of the phones through a 0.1 mfd. condenser as shown in the circuit. The phones will then operate either from the keying monitor or the receiver without any change.

Regarding the cost of the keying monitor, this should be very low as practically every junk box will have all or nearly all the gear required. The small trouble of construction will be amply repaid by the results obtained.

Divisional Notes

N.S.W. Division

W. G. Ryan, Secretary, VK2TI, Box 1734JJ, G.P.O., Sydney.

COUNTRY ZONE OFFICERS.

ZONE 1 (Far West)—

J. Perooz, VK2PE, Hope Street, Bourke.

ZONE 2 (North-West)—

H. Hutton, VK2HV, Byron Street, Inverell.

ZONE 3 (North Coast)—

R. J. Berry, VK2NY, 54 Bacon Street, Carlton.

ZONE 4 (Hunter River and Coalfields)—

S. Grimmett, VK2ZW, 161 Tudor Street, Hamilton.

ZONE 5 (South Coast and South West)

N.S.W. STANDARD FREQUENCY TRANSMISSION MARKER STATION.

Early in the new year the N.S.W. Division of the Wireless Institute of Australia will commence a weekly series of Marker Station Transmissions on Amateur Bands from the 80mx band down.

The actual Frequencies on which these transmissions will be are as follows: 3500 KC, 4000 KC, 7000 KC, 14,000, 28,000 KC. These marker station transmissions will thus show the ends of each of the more important Amateur Bands.

The transmission will be under the W.I.A.'s call VK2WI; the actual times and length of each transmission have not yet been finally arranged.

The necessary apparatus is at present being manufactured but as soon as available schedules of transmission will be published in these columns.

This scheme should be of great benefit to all Amateurs and will clear up many more points as to just where these bands do end.

W.I.A. SPORTS DAY, WYONG, N.S.W.

Just on 50 YL's, YF's and OM's gathered at Wyong on December 6th in glorious weather for a W.I.A. Sports Day.

For the last couple of years there have been gatherings at Wyong for Field Days, and on this occasion it was decided to venture from this field and spend the Sunday in sport instead; 7 car loads travelled the 70 odd miles from Sydney and everybody thoroughly enjoyed themselves.

A pick of Golf, Tennis or Cricket satisfied most.

On arrival luncheon was served at the golf club, and then the parties separated for their various sports. The cricket match created the most interest and 2TI gave all his side a bowl with the result that leg and off theory was turned on with alternate balls—2OD seemed the star bat—While Bill 2IV gave exhibitions of a good chopper—12 attacked the local turf with golf clubs leaving it like Ermac's 500T with perforations—2HO caused all the excitement at tennis when his shorts cracked like that 40MX rock and 500 volts—Did the gang want another?—Yes, the next Sunday.

Many thanks to Mr. and Mrs. 2OC and 2TX of Wyong

ULTRA HIGH FREQUENCY SECTION.

VK2VN

During the past month, although nothing of particular mention has been done either on 5 or 10 mx, activities are increasing day by day and we are all hoping that there will be a "Great 5MX Panic" similar to that of May 5th, over in the States.

The lasting meeting, held on December 3rd, proved to be one of the best to date. This was due to the efforts of Mr. Don Knock, 2NO, in bringing along his new 5 mx superhet which possesses many new and novel ideas. Two stages of IF amplification are used with the intermediates link-coupled operating on

5000 KC. This has the effect of giving a fairly broad channel which is most desirable in copying s.e. signals. The sensitivity and gain are remarkable, changing instantaneously from a two tube super regen, an R2 signal becomes R8. Don, at the moment, is putting out one of the best signals in this division on 5 mx. The antennas used are a Reinartz Rotary beam and a bf-directional Bruce. Unfortunately during a recent storm there was a loud crash and that was the end of a beautiful lattice-lathe girder supporting a beam.

2LZ is still using the 800's and can be heard with excellent fone and cw every week end. An 8 tube super is used for receiving but Con has trouble in copying unsteady signals.

2HL at Chatswood is on quite frequently using a novel type of triangular antenna representing half a diamond. This antenna is bi-directional and is giving excellent results by being rotated.

With regard to 5 mx schedules, 2OD and 2DL will be on with either fone or ICW on December 25, 26 and 27 between 8 and 9 p.m. so all you interstate gang here's another chance.

2WN has not been heard of late but 2WJ's fone is just as good as ever and seems to be getting out well—he was recently heard at Blackheath about 60 miles up in the mountains at R8 to 9.

2HO and 2ZH at Roseville will both be on five very shortly but unfortunately Roy's qra is down in a hollow, —however, one never can tell.

The idea of quadrupling with 53's seems to be an excellent means of doing away with one stage and offers an easy way for crystal control on 5, although some of the gang have had difficulty in getting it going with any success.

2MQ on quite frequently with PP 46's as final.

Manly Radio Club, 2MR, still doing good work.

With regard to 10 mx, conditions of late have been poor, an occasional European being audible about 8 p.m. but the only consistent station is G6DH. The Yanks are still coming through at excellent strength on fone during the mornings, W6ITH, W9TTB and K6MVV being R9 at the peak hours.

Round about midday the J's come through the best of these being J2IN, J2IS, J2LU and J3FJ, while from 6 p.m. onwards VS6AH can be heard, and ZSIH has been heard at this time.

A newcomer to 10 is 2VA who is putting out a nice cc signal.

2UD had the misfortune to blow up one of his 46's in the final but now gets as much output from a single 45!

2VN experimenting with a beam for Europe, but so far have not heard any since putting it up.—Works fb for J and VS6 through.

2ZC at Newcastle is doing some good work with PP800's while 2GU ex 2EP, —3BD, spends a great deal of time working the Yanks.

At the moment, there are very few CW stations operating on 10 in the States, W6QG and W6JJU being the only consistent ones.

Old W6VQ of 10 mx fame, who has not been heard for the best part of a year, was contacted on 14 mc, and he asks VK's to listen for his 2KW fone on 10 early in the New Year. (Guess we won't have to listen hard.)

Sunday night is the time for 2JX —by the way Pete, how did you enjoy that 3 way qso the other night? A 35T doubling is used in the final and for fone Telefunken modulation is working excellently.

The next meeting is to be held on January 7 and some of the gang are bringing along their 5 mx transmitters, so it should be a great success.

In concluding may we extend our heartiest congrats to VK3 and VK5 in their endeavour to make a 2 way 5 mx contact. Best of luck for the next Field Day and we are waiting to hear from you re schedules.

NEWCASTLE CLUB NOTES.

(Aml. with W.I.A.)

By 2RF

All the local Dx hounds are keeping quiet, chiefly due to poor condx on 20 mx.

ZW, using 6P6's in the two exciter stages has good 10 mx output from the second, using regeneration on the oscillator.

RF is busy getting bugs out of his BCL band rig. The quality ZC gets from his Reiss mike has to be heard to be believed. SO has made

Amateur Radio

a comeback on 40 and 20 mx. His wife being on holidays may have something to do with it. UF QRT while new shack going up. ZC with 272 points won the Electronic Communications Cup from BZ, 263 and MT, 253. Jim's win was particularly meritorious in view of the almost incessant power QRM at his location.

A visitor to the club in 21C gave an interesting talk on "Xtals."

A new code and theory class has been formed and meets each Thursday night at 8 p.m.

NORTH SHORE ZONE.

2AE does a little fone on 20 and 10 occasionally. 2ACJ has a ten in the final. 2ACL has changed his call to 2GV and now has a 60 foot mast in the back yard. 2BJ has built rather a handy little 5 mx transmitter. 2FV has now finished his Super but still requires to switch it on. 2HA had RF rot in the shack floor which gave way beneath him and he finished up keying underneath. 2HG is still going on 40 mx and visited the Radio Exhibition at the Chatswood Town Hall recently. 2HL was heard on 5 mx at Blackheath at R8. 2JV is back on the air again after several years and is interested in 5 mx. 2LA is thinking of going QRO and is doing a bit of importing of high voltage tuning condensers. 2LD has now changed his QRA and is in amongst the boys around Chatswood, near 2JU, 2HG, etc. 2LZ worked about 50 countries in the recent VK/ZL Contest and scored something like 110,000 while 2HZ thought best to retire to Wollongong as the contest was getting too hot for him. 2YC made 30,000 odd with 27 countries. 2NN is now in the Wireless Reserve and pounds the brass some 25 W.P.M. 2OG is consistent on 20 mx fone at nights. 2QF had his 53 exciter unit rebuilt and it looks the berries. 2VE has built a Super. 2VL has a brand new rig with 53 exciter, 2A5 buffer and a ten. 2VP will also be on again soon with multi-crystals. 2YA wants to rebuild but has not enough time at present.

THE NORTH SUBURBAN RADIO CLUB, CHATSWOOD (Affiliated with the W.I.A.)

At a recent Radio and Electrical Exhibition held at the Chatswood Town Hall on 4th, 5th and 6th,

November, this Club figured among the exhibitors and held a stand which was of much attraction to the many people who attended the show. Visiting Hams were especially attracted, some being 2ACF, 2LD, 2HG. Exhibits of the Associate Members were in great number and some very fine apparatus was shown. Trophy Cups were contested for among the Associate Members and Mr. R. Wells won with a power supply, Mr. R. Taylor with a TRF receiver and Mr. R. Mitchell with a 5 mx receiver. The Ham members also had apparatus on exhibit but not for contest. 2HL's transmitter took up plenty of room but gave the stand a fine appearance.

Three members of the Lakemba Radio Club visited this Club on Tuesday, 17th November, and gave a most interesting lecture on vacuum tubes helped immensely with motion pictures and musical recordings from 2DL's Public Address System. The lecture was greatly appreciated by all present and it is hoped that this inter-club system of exchanging lectures will continue. It is certainly the goods.

ZONE 3 NOTES. **VK2IG.**

Condx on all bands fair and plenty W's on 40 and 10. Hard to raise on 20's now. New ones heard here include MX, AC4, SP, SU, SV, OE, VP2, HK, HC.

QE been adj., etc., rig es qrl much better. Qso'd VS8AA, es also nw has worked W.A.C. Fb on.

EU rather qrl work, but on fone on forty. Soon be heard on 20's.

OJ been on holidays. Not on much, as also qrl.

NG still gg strong, also trimmed rig. up, and much better all round. Qso'd HK, VP2, CR9 es SU for new countries.

New ham soon, as Angus Keir received good news from R.I. Good luck ob es; we all welcome u to the ranks.

LAKEMBA RADIO CLUB—VK2LR. (Affiliated with the W.I.A.) By 2DL.

The meeting of the above club on Tuesday 11th December, proved to be the most interesting one for

several years. The secretary, Mr. Geo. Brown delivered a lecture on "Direction Finding by Radio in Aircraft." The subject itself was a most interesting one, but it happened that several members at first disagreed with many of Mr. Brown's statements. The lecture developed into a very heated debate, and at times several members endeavoured to have a say at once. The lecturer issued a challenge for them to disprove his statements, which could be proved on expert authority. It became necessary for the President to close the meeting at 10.30 p.m., but in order to satisfy everybody Mr. Brown offered to answer any question or prove any statement the next meeting. Our Secretary must be complimented on his ability to deliver lectures on subjects of interest, as the success of such lectures is proved by the interest displayed and the questions asked. In any case Lakemba Club is noted for its talks and discussions which meet with general approval.

The 5 metre group report that there is nothing startling happening on 5 metres, although many members are using improved receivers and transmitters. However, hopes are high for the coming summer. From time to time, signals, which may have been interstate, have been heard, but identification appears to be very hard. It has been suggested that 5 metre stations give their call signs more frequently, as very often signals are audible for about half a minute, when they entirely disappear.

Victorian Division

SHORT WAVE GROUP NOTES.

By O. E. Davies.

November 25th was a poorly attended meeting of the Group. As it was not possible to arrange a visit in time for December 9th it was agreed that an ordinary meeting be held, and that the night be devoted to general discussion on Short Wave Work.

The meeting abovementioned was duly held on December 9th, and a fairly representative gathering resulted. A motion was placed on the books that January 27th be a Con-

vened Meeting. Business: Minutes, Correspondence, General. SPECIAL BUSINESS: A Discussion on the Future Destiny of the Group. Make a note of the date and make it your business to attend.

At the time of writing these notes the A.C. is being connected to the Institute rooms. (The wiring has been in quite a while). With this added convenience at our disposal we should now be able to carry out experiments of a definite progressive character. In fact, we now have all the facilities for planning out the ultimate Ham communication receiver.

The Instrument Library is in good trim and so also is the Technical Library. With these at your disposal, Gang, you are in the position to design gear which will be the envy of all who see it.

The day when one built a receiver merely for the purpose of listening to Overseas stations is past, insofar as this group is concerned; now the objective of the Group should be trained on the development of selective, sensitive and reliable receivers for amateur communications. Knowing the intense interest that once prevailed within the Group, the writer feels that all of these things can be accomplished. It only remains with the individual members to stir up their dormant interest and see just what can be done.

If in reading these notes the writer has awakened the latent enthusiasm of any one member, then all will not have been in vain.

Here's hoping to a record attendance at our next meeting on January 13th. Should you be unable to attend, don't forget the Extraordinary meeting of the Group on January 27th.

VICTORIAN KEY SECTION NOTES. VK3DP.

The December meeting was not very well attended, even though it was a demonstration night. Council representative spoke for some time on Gadsden Trophy. Several members suggested that a definite set of rules be made to prove who is the winner of this trophy. This suggestion was favoured by most, but it has been referred to council to be finalised. This trophy is open to all Victorian sections. He also reports



RADIO METERS

Over 50 Years
Experience of
High-grade
Instrument
Manufacture



We stock the following 2½" Instruments
of first-grade accuracy

D.C. MOVING COIL
A.C. MOVING IRON
A. C. METAL RECTIFIED
A.C. - D.C. THERMAL
A.C. - D.C. ELECTROSTATIC VOLTMETERS

NOYES BROS.

(MELBOURNE)

LTD.

597-603 Lonsdale Street

Telephone Central 10105

that many "blue cards" have been handed around to fellows with punk QRI's. This is not so good, because it is up to this section to show them how to have good sigs. After the business was through the gear was brought to light. Jones exciters, tritet osc, super gainers were laying all over the room. 3BQ, 3YP & 3ML were all hot and bothered, trying to shuck more RF out of their units than the other fellow. 3ML exciter was a picture. Nicest piece of work seen for a long time. Funny thing about all this gear, it all worked.

The U.H.F. section staged another 56 MC field day on December 6th.

Conditions have not been very good lately. The 7 and 14 MC seem very dead. Dx sigs. on 14 MC sneak through after midnight, but should be showing through earlier very soon now. Well, chaps, I have been very busy lately, so there is not much to report on the doings of the members. However, it has been heard on good authority that

3UK has got a S.S. super perking .

3BQ—still building new rig.

3OC-3DP—Building super gainers.

3MR—Building big S.S. super (Coburg special). Bet he gets a headache.

3YO—Busy playing golf.

3CX—Allan has been heard lately with rather ruff note.

Well, gang, I hope to have better notes next issue. I'm not a mind reader, so what about letting me know what you are doing. Meanwhile, happy days, and all the best for the New Year.

28MC SECTION.

(By A. Pritchard, VK3CP).

Conditions were excellent until approximately the end of November, when a decided falling off was noticed with W and European sigs.—J stns. were not affected; G6DH, G2PL and G6ZU were fairly consistent. Before the change these extra Europeans were contacted by VK's: F8EO PAoUN, G6VX, G2IO, G2PN, G6ZU, G6RB, G5FV, SM5VW, OH20B, ON4NC-G6QB, G6CJ, G2AO, F8SN, F8MG, OZ2UM, OKIAP, E18B, PAOZK. Sunday, 22nd November, was ideal for 5 conts., and W7MB was hrd qso PY2HH at 1.30 p.m. local. LU9AX and LU6AX wkd J2iS, who asked them to look for us, but ng

both ends. Probably we should qso LU about 6-7 a.m., their time for it was this time some months back, that VK3YP hrd LU1EP and was hrd by him but no contact; also LU9AX hrd 3YP at 10 a.m. local. VK2GU has had wonderful results with his European beam, and has over 200 contacts. The VK3's are testing beams and 3XP has 2 half waves in phase with 2 reflectors. Reg. is getting very good results. 3YP has tried 2 half waves in phase also, but OH7ND gave Ingram r5 on the beam and r7 on big ant. 3BQ is using 2 half waves also for Europe, but Max gets better reports from Africa on the big ant., contacting ZT6Y, ZT2Q, ZE5U, XE1JJ, ZU6P, ZS1H. The ant. hr at 3CP has 2 full waves, 66ft. 8in. long, fed on end by $\frac{1}{2}$ wve sect. 8ft. 4in. long, fed by Johnson Q system, i.e., $\frac{1}{2}$ in. copper tubes, spaced 1-3/16in. between centres and $\frac{1}{2}$ wve long, all in series with 475 ohm line (12 SWG spaced 3in.), ant. is pointing E & W and is FB for all contin. There are several new stations, VK2AE has 830B doub. final and is getting fb results — VK5KL has 4 stages with '46 doub. final—VK3IW has just started on 10 and uses 2a5 Electron coup osc and paralleled 6P6 final; he is expecting an RK20 for final but is putting in Xtal first. VK3NB is firing up with 3 stages and 2a5 doub. final. The W stns have gone fone lately, the loudest being W6HX, W6CUU, W6GRX, W8ANO, who are usually r 8/9—K6MVV is also r 8 fone and K6NEK not so good. The ZL stns are good about 5.30 p.m. and ZLICD puts over phone—cw stns ZL1GX, ZL2BG, ZL4BQ are easy contacts.

WESTERN DISTRICT NOTES.

3HG.

Two further new licences in Hamilton are 3TW and 3TN, making a total in the town of five. 3DZ at Portland is another in this district. He has not been heard as yet.

3CK some time ago had quite a simple accident that left him completely blind for several days. However, he has made a complete recovery and has been active on 80 and 40.

3GQ on 20 metre phone and recently contacted an SU to obtain his W.A.C. phone. Mrs 3GQ is also heard at the microphone quite regularly.

3GC is temporarily inactive while rebuilding for better and bigger ideas!

3XU, of Castlemaine, has a great signal on 40, while 3RG was worked on this band recently. His activities for the past few years have been on the 240 phone band.

3OW is more interested in the commercial side of radio at present, but sticks to Reserve schedules very well.

3HG still blowing a tube or two, the last being the modulator, so no phone until a 6L6 is installed. Mainly due to pressure of work, QSO's are few and far between.

3PG is talking of selling out, which is indeed bad news. He has probably been VK's most consistent QRP DX man.

3OS is heard on 80 metre phnoe, at irregular intervals. His phone is quite good and gets out well.

3XG's phone is very patchy, sometimes good, sometimes very bad.

MALLEE & NORTHERN DISTRICT.

Old Man QRN has been making himself heard during the past month on 80 and 40 metres, but 20 metres has been proving worth while, as it is free of interference, except QRM and car ignition.

3CE has not been very active, as this is his busy season, harvesting the golden grain, but nevertheless found time to work a Yank.

3WN also not very active as Jack is very busy.

3KR is very active. Worked a new country on 20 metres VQSAH located in the Solomons or some such place. Ken has now got his 6L6's operating and is driving them with a 6C5 resistance coupled to another 6C5, which is resistance-coupled to the 6L6's.

3TL is seriously thinking of 6L6's as his present modulating equipment is not sufficient to modulate watts on 20 metres.

3OR is very active as far as travelling goes. Visited Wagga, particularly 2YW.

3EP—Ted spends most of his time on 80 and 40 metres, but is considering a new rig so as he will be able to go to higher frequencies.

3FF is rather inactive owing to power difficulties. Joek is trying to get hold of an alternator.

3AI is heard occasionally on 40 metres.

3BG is on 40 metres. Roth is erecting a half wave 80 metre Zepp, and is going to build a new rig.

3IH, of Charlton, has not got on the air yet but will before long.

3EQ paid a flying visit to a few shacks in the north when he was passing through from Adelaide to Sydney.

3ZK is now an all band expert. His first DX contact on 20 metres was an XU, but hasn't worried 14 mc much yet.

3HX is having a lot of fun with a pair of 6P6's and hasn't yet got 'em working properly. Tom has an idea one tube is pushing while the other does all the pulling (mils).

South Australian Division

By VK5KL

The transmitters' section this year held a reunion meeting on November 25th. The object was to have present some of the oldest hams and members of the Institute in South Australia and so bring back memories or remake acquaintances of those old days of spark. And what a great success it was! Several chappies spoke, including Mr. M. Brown (5MB), Mr. Cook (5AC), 5AO and 5BY.

With items by a mouth organ band, ventriloquist, and recitation by Mr. Kennedy, and supper to follow, the evening soon passed happily away. December 6th saw the W.I.A. field day at Clare and the biggest gathering of hams and friends were present that has been seen in VK5. A new interest in the Institute's activities is the formation of an Ultra-High Frequency Section. This will meet with great success and help to swell the ranks of the meetings.

At present visiting hams in Adelaide are Miss Ruth Longley (VK6YL), from Perth, who is here with the VK6 Women's Cricket Team. I had the pleasure of meeting this charming young lady, also to see her play. VK3OP is, I believe, going to settle down here in VK5; he was present at the Reunion meeting but wasn't impressed with Adelaide.

A Happy New Year and heaps of DX and success from VK5 to our Sister States and brother Hams.

Tasmanian Division

By VK7JB

Arrangements for a field day were finalised at the December meeting of this Division, held on the 1st inst. The site chosen will be within a five-mile radius of Huonville, and prizes are to be awarded for the first three cars in. Five metre apparatus will also be carried for inter-car communication.

W.A.C. Cards from 7CK were received for approval by Council.

Several of the VKs are anxious to qso 7YL, but not so fast with QSL's. You will be sure of a QSL card from Joy, boys, so what sa?

The Council wish to extend Xmas greetings and compliments of the season to all members.

7YL—Trying hard to contact G, on 20 metres. Skywire blew down in recent gales. Has acquired a flash-looking Reiss mike.

7CL—Still rebuilding fone rig.

7KV—Busy with duties of assistant secretary. Has asked Father Xmas

for an Amperex H.F.200.

7CT—Burning up 20 metre band in race for W.A.C.

7JH—Added a few more new countries, including G, K5, CM, and K6.

7PA—Has velocity mike going satisfactorily and sounds very nice. Also acquired brand new car, and rumour has it is soon to take unto himself a wife.

7DH—Still active on 40 mx CW, and is anxiously awaiting end of 6 months' probationary period to try fone.

7AH—Sorry to relate that Pop is not in best of health of late. Hope to report favourably next month.

7AR—Has transmitter working o.k. on c.w., and is now installing fone with 2A3's as Heising modulators.

7MM—Making a comeback, I believe.

7SR—Held up owing to aerial blowing down in gale. Shattered the masts also.

7JB—Busy despatching QSL's from contest.

7AB—Very quiet since contest, believe 5 mx occupies your time now,

Eimac

The Ideal Ham Tube



| | |
|------|-------------|
| 35T | £4 - 2 - 6 |
| 50T | £6 - 8 - 0 |
| 150T | £11 - 5 - 0 |

Please add 3/- fragile postage

for — National Transmitting Equipment
Birnbach Insulators; Bliley Crystals;

Send for Catalogue —

◆ **ELECTRONIC COMMUNICATIONS LIMITED**
Box 300 P.O. Newcastle, N.S.W.

Amateur Radio

Doug? Scored 29,000 points in contest.

7LZ—Convinced that the old det and one is no good in contests. Bad enough on a super, Col.

7RC—In V.I.H. at present, doing an exam for Broadcast Operator's certificate. Hope to hear more of you now, om.

Hamads

Advertising space in these columns is available to those wishing to sell, buy or exchange, at 3d. per line; approximately five words to the line. Minimum charge, 1/-. To ensure insertion enclose postal note or stamps with copy, and address to the Advertising Manager, "Amateur Radio," White Horse Road, Box Hill, E.11., Victoria.

BRIGHT STAR RADIO, VK3UH, 517 Lower Malvern road, Glen Iris, S.E.6. Crystals ground from best Brazilian Quartz and tested to 50 watts input to penthode oscillator, as used by leading experimenters and DX Stations, accuracy plus or minus 3 KC's, 200, 160 metre, 15/-; 80 metre, 10/-; 40 metre, £1/5/-; 465 KC, xtal gates, £2; Plug-in type holders, 7/6 each. Power Transformers constructed to specifications. Filament transformers, up to six windings, 15/6. Receivers and Transmitters constructed. Super-Hets aligned. Triad first quality 866 Mercury Vapour Rectifiers, 7500 volts peak, £1/1/-. Call or write above address. Satisfaction guaranteed.

FOR SALE, in Lot or Part.—Two Carter Genemotors, 180 and 250 volts respectively, perfect condx, almost new. One Amplion X1 Filter. Three cond. 4mfd. 400v. One 30 Henry 100 mill. Choke. What offers! VK4UX. C. P. Singleton, Theodore.

SELL, Siemens 0-200 m.a. meter, new. Quam trans, condensers, 750 volt transf. with fl. wdgs., other gear. Offers. G. E. Every, Fort, Queenscliff.

Xtals by W9ADN, 80 mx at £1; 40 mx V, £1. R.F. Chokes by ON4DJ, as National 10/200 mx 175 ma, 2/11; 5 mx, 2/-. Bugs, Vibro type, steel base, nickel-plated, 35/-. VK3RJ, 23 Landale St., Box Hill.



THERE is an "Eddystone" component for practically every purpose in transmitter, receiver, and laboratory equipment design. An illustrated list is available and requires only a QSL card sent to VK3ML to have one forwarded.

Of particular interest, because of their rarity in Australia, one or two of the more special components might well be described. Firstly, a three-unit, two-stage I.F. transformer outfit, working on 2000 k/c/s and mounted in a die-cast aluminium box, measuring $6\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$ inches will appeal to the U.H.F. gang. Each section houses a transformer with tuned windings, damped with resistors to give a practical band width for sound receivers. List price, 41/-, complete with screened anode leads.

A patent band spread tuning outfit provides for two condensers. The first, the padder, has a capacity range of 10 x 14 mmfd and is fitted with a stop device graduated in 10 steps. Each stop covers a capacity of 14 mmfd, band setting being predetermined and controlled by a black bakelite switch knob with a graduated 0-10 dial plate. Listed at 11/6. To be paralleled with this padder is the slow motion trimmer having a 9:1 reduction ratio incorporated in it. It has a capacity range slightly greater than each stop of the padder. This enables each 10th section of the whole to be spread over 180°, and provides a tuning ratio of 90:1.

The trimmer is actually a complete condenser and vernier dial in itself, and is supplied with a knob, dial plate, and hair line cursor. Listed at 13/1.

TRANSMITTING CONDENSERS—Variable, for 75 and 250 watt inputs, capacity .00016 mfd. Listed at 14/6 and 17/- respectively.

Condensers and Insulators to cover all ham requirements. Discount to hams and experimenters—20% off list.

R. Cunningham

VK 3ML

397 High Street,
GLEN IRIS, S.E.6, Victoria
Phone U9028.

Your Radio Needs Radiotrons

PENTODES FOR ALL PURPOSES

| TYPE | NET PRICE * | FILAMENT OR HEATER | | PLATE VOLTS | SCREEN VOLTS |
|------|----------------|-----------------------|-------|----------------|-----------------|
| | | VOLTS | AMPS. | | |
| 6P6 | 16 0 | 6.3 | 0.7 | 450 | 250 |
| 802 | 1 15 0 | 6.3 | 0.9 | 500 | 250 |
| 954 | 2 0 0 | 6.3 | 0.15 | 250 | 100 |
| 837 | 4 5 0 | 12.6 | 0.7 | 500 | 200 |
| 804 | 7 5 0 | 7.5 | 3.0 | 1,250 | 300 |
| 803 | 18 0 0 | 10 | 5.0 | 2,000 | 600 |

Have you received your Radiotron Loose Leaf Data Book? If not please advise us, at the same time quoting your Call-sign.



RADIOTRON

V 19.6

(Advertisement of Amalgamated Wireless Valve Co. Ltd.)